

**ABSTRACT**

A vision system is disclosed. The system includes a pixel array, at least one multi-resolution window operation circuit, and a pixel averaging circuit. The pixel array has an array of pixels configured to receive light signals from an image having at least one tracking target. The multi-resolution window operation circuits are configured to process the image. Each of the multi-resolution window operation circuits processes each tracking target within a particular multi-resolution window. The pixel averaging circuit is configured to sample and average pixels within the particular multi-resolution window.

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